
Name of Organization: Muskegon Conservation District

Type of Organization: Sub-state or Special Purpose District

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Muskegon Conservation District

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Project Title: West Michigan Biodiversity Atlas / Restoration Guidebook

Project Category: Habitat (Ecological) Protection and Rest

Rank by Organization (if applicable): 0

Total Funding Requested (\$): 59,430 **Project Duration:** 1.5 Years

Abstract:

Muskegon and White Lake AOCs are located along Lake Michigan in Muskegon County, Michigan. This innovative project will develop a Biodiversity Atlas/Restoration Guidebook (BA/RG) & CD ROM, meeting wildlife habitat restoration recommendations of these lake's RAPs & the Lake Michigan LaMP Action Agenda. The BA/RG will include the 2-county area of the White Lake AOC Watershed, the Muskegon Lake AOC Coastal Brownfield/ Enterprise Community & the Lower Muskegon River Watershed. It will be used as a tool to develop and implement plans for restoring landscapes and to preserve bio-diverse native plant communities by local decisionmakers, planners, land managers, landscapers, consultants, landowners, educators & USDA-NRCS and Conservation District staff. It will be used in training workshops on how pre-settlement vegetation information can be used to guide habitat restoration and management activities. The BA/RG will be based on Muskegon & Newaygo counties GIS land cover types which include layers of: pre-settlement vegetation; hydrology; soils; slopes; roads & current land use/coverage. It will provide pictures of representative, undisturbed natural areas; indicator species for each critical land cover/community type; lists of available Michigan genotype species (& planting requirements) for each community; a directory of native plant growers (identified by GLNPO/Michigan Association of Conservation District's (MACD) "Go Native"). Featured in the BA/RG will be information for local government officials on: the importance of protecting nature; the role of local governments; recommended tools and techniques to protect and restore biodiversity (using Northeast Illinois Planning Commission's guidebook model); and a map of west Michigan Natural Areas. This project adds value to: GLNPO/MACD-Go Native; MDNR's Natural Features Inventory & the Cooperative Resource Management Initiative (CRMI) a partnership of Michigan Conservation Districts, MDNR & Mich. Dept. of Agriculture (MDA).

Geographic Areas Affected by the Project

States:

<input type="checkbox"/> Illinois	<input type="checkbox"/> New York
<input type="checkbox"/> Indiana	<input type="checkbox"/> Pennsylvania
<input checked="" type="checkbox"/> Michigan	<input type="checkbox"/> Wisconsin
<input type="checkbox"/> Minnesota	<input type="checkbox"/> Ohio

Lakes:

<input type="checkbox"/> Superior	<input type="checkbox"/> Erie
<input type="checkbox"/> Huron	<input type="checkbox"/> Ontario
<input checked="" type="checkbox"/> Michigan	<input type="checkbox"/> All Lakes

Geographic Initiatives:

<input type="checkbox"/> Greater Chicago	<input type="checkbox"/> NE Ohio	<input type="checkbox"/> NW Indiana	<input type="checkbox"/> SE Michigan	<input type="checkbox"/> Lake St. Clair
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Primary Affected Area of Concern: Muskegon Lake, MI

Other Affected Areas of Concern: White Lake, MI

For Habitat Projects Only:

Primary Affected Biodiversity Investment Area: Not Applicable

Other Affected Biodiversity Investment Areas:

Problem Statement:

Tools and training on the appropriate species to restore and manage land on an "ecosystem landscape" level is lacking in Michigan. Most landscapers, managers and landowners lack the knowledge and tools to help them recognize remnants of west Michigan ecosystems such as dry sand prairie, oak pine barrens, forested sand dunes, & the diverse riparian areas such as: coastal plain marsh, mixed hardwood and shrub swamps, elder willow bog/birch thickets, hemlock wetland and cedar& tamarack swamps. In fact, many of these wetland types have been completely eradicated by draining for agriculture and other developments in west Michigan. The lack of knowledge on 1.) where these ecosystems existed in west Michigan and 2.) the types of native plants appropriate for landscaping, wildlife management plans and brownfield restoration projects jeopardizes effective restoration planning and implementation. Service providers lack a planning tool to aid in the use of presettlement vegetation information and to ensure that appropriate species are integrated into wildlife habitat plans, landscape restorations and enhancements. A special challenge for the south shoreline of Muskegon Lake is presented by the historical practice of using foundry slag and sand to fill the lake for industrial expansion. This has left the entire south shoreline as a designated brownfield zone. The shoreline's natural heritage "identity" has been lost, making it a challenge to know which species are suitable for landscaping and habitat restoration within the cleanup and redevelopment process. This project will identify species suitable for ecosystem restoration in this degraded environment, helping to restore the natural heritage identity and biological capacity of this formerly unique shoreline area. Michigan native plant growers have been successfully propagating Michigan genotype species for use in landscaping and restorations, however, the demand for these plant types needs to increase to sustain and increase their continuing production. Local government officials need to understand why protecting nature is important and how critical their decisionmaking role is for the preservation and restoration of biodiverse habitats. Service providers who work with local governments need to include information and recommendations not only on the types and quantities of plants to use in landscaping and land management, but also on the planning and policy options/tools and techniques local officials have at their disposal.

Proposed Work Outcome:

This project will foster a more ecologically specific, "place based" level of restoration and management by providing decisionmakers and service providers with an integrated planning tool which includes: 1. CD ROM and "atlas based" GIS presettlement vegetation, soils, topography, hydrology and current land use layers 2. land cover/community type appropriate native species - species planting requirements - and sources of nursery propagated, Michigan genotypes; and 3. local level planning and policy decisionmaking tools and techniques which can be included in management and restoration plans.

To identify which of the Muskegon and Newaygo Counties' presettlement vegetation land covers to be "keyed out," an

inventory of the lost and threatened presettlement landcovers will be made and compared to the critical areas for restoration. To identify critical restoration areas, information available through the MDNR Natural Heritage Program, Land Conservancy of West Michigan, The Nature Conservancy, the Muskegon and Newaygo Conservation Districts and the Muskegon Lake and White Lake Public Advisory Councils will be used. A series of input meetings will be held to gather community based priorities for restoration and to determine needs. The use of the BA/RG will build on the Muskegon and White Lake RAPs and their corresponding 1995 Wildlife and Aquatic Habitat Assessments which identify the need for habitat restoration in the coastal brownfield and riparian areas.

Contracts will be developed with 1. Grand Valley State University for the GIS layers and development of the CD ROMs; 2. Northeast Illinois Planning Commission for development of the Local Government tools and techniques section and 3. Land Conservancy of West Michigan for technical assistance and input to ensure that this project adds value to their 1999/2000 "Land Conservancy Initiative in Muskegon County."

For each critical restoration area/pre-settlement land cover represented in the BA/RG atlas, there will be:

- 1.) a photo of what that ecosystem/land cover would look like if undisturbed;
- 2.) a list of "indicator" species to assist BA/RG users in the recognition of remnant areas;
- 3.) a list of native plant species and plant requirements which could be used in a restoration/management plan.
- 4.) A list of Michigan native plant growers who specialize in propagating west Michigan genotypes.
- 5.) A list of Michigan natural areas to visit. This project will help Michigan's native plant growers by creating more demand for native plants and seed.

Along with the atlas and planning information described above, the guidebook will include a special section for local government officials. It will provide them with information on: 1.) why protecting nature is important 2.) how their decisionmaking role is critical for the preservation and restoration of biodiverse habitats and 3.) descriptions of the tools, techniques and technical assistance available to be incorporated into their daily planning and policy decisionmaking.

The BA/RG will be produced in both hard copy and CD ROM forms. It will be distributed through the Muskegon Conservation District and at three training workshops to be held in west Michigan, targeting the following audiences in Muskegon and Newaygo counties:

- 1.) Conservation District Resource Professionals (ie: Forestry/Wildlife CRMI Program and Michigan Groundwater Stewardship Program, Lake*A*Syst/Home*A*Syst technicians) and USDA-NRCS conservationists and technicians and professional landscapers
- 2.) K-12 educators and outdoor classroom parent and master gardener volunteers
- 3.) Local government officials, planners, developers and landowners in critical habitat, AOC and coastal brownfield areas

Project Milestones:**Dates:**

Project Start	09/2000
Critical Land Covers Identified	10/2000
Contracts for GIS & Technical Assistance	11/2000
Local Government Tools/Techs Development	02/2000
Remnant Photos, Species Lists Developed	06/2001
Collaborate/Write/Synthesize Information	09/2001
Produce/Distribute/Workshop BA/RG-CD ROM	02/2002
Project End	03/2002

☒ Project Addresses Environmental Justice

If So, Description of How:

The City of Muskegon's Muskegon Lake Shoreline Brownfield Zone and designated Federal Enterprise Community and the City of Muskegon Heights EPA Brownfield Redevelopment Pilot Program and Federal Enterprise Community will benefit from the use of the BA/RG because it encourages the restoration of urban, brownfield and natural areas for public use. Current usage of the Muskegon Lake and Mona Lake shorelines for subsistence fishing is predominantly by African American residents. The BA/RG will be used to encourage natural area restoration and public access of these brownfield redevelopment areas to improve water quality, aquatic habitat and the social and cultural enjoyment of these shoreline areas for the public. The City of Muskegon and City of Muskegon Heights will be provided with the BA/RG CD to facilitate their ability to incorporate recommendations for appropriate landscaping in redevelopment plans by developers.

☒ Project Addresses Education/Outreach

If So, Description of How:

The Habitat Restoration Atlas Guide and CD ROM will be distributed through an educational program to train landowners, land managers, landscapers and local government officials on: the importance of protecting nature; the importance of local government involvement; and recommended habitat biodiversity protection tools and techniques for restoration. It will be a tool to encourage people to do inventories on their own land and will reference MDNR's Floristic Quality Assessment. The Muskegon and Newaygo Counties Conservation District's and USDA NRCS staff will use the BA/RG as an educational tool in landowner wildlife habitat management and native plant landscaping workshops.

Project Budget:

	Federal Share Requested (\$)	Applicant's Share (\$)
Personnel:	24,211	6,000
Fringe:	6,779	0
Travel:	837	0
Equipment:	0	0
Supplies:	1,200	0
Contracts:	21,000	0
Construction:	0	0
Other:	0	0
Total Direct Costs:	54,027	6,000
Indirect Costs:	5,403	0
Total:	59,430	6,000
Projected Income:	0	0

Funding by Other Organizations (Names, Amounts, Description of Commitments):

Funds will be pursued through the Community Foundations for Muskegon and Newaygo Counties, local governmental units and Michigan's Clean Michigan Initiative fund to help with the widespread distribution and use of the Biodiversity Atlas Restoration Guidebook and CD ROM.

Description of Collaboration/Community Based Support:

To develop the Biodiversity Atlas and Restoration Guidebook, the project manager will collaborate with the Michigan Association of Conservation District's EPA-GLNPO "Go Native" Steering Committee; Land Conservancy of West Michigan; Northeast Illinois Planning Commission; Newaygo Conservation District; Muskegon and White Lake Public Advisory Councils and the Lake Michigan LakeWide Management Plan Forum.

To ensure that this project builds on models and programs which are currently funded/underway in the Muskegon and White Lake AOC watersheds and the Lake Michigan basin, contracts will be established with: 1. Grand Valley State University's Information Services Center (builds on 1999 Muskegon & Newaygo Counties Land Use/GIS Project; 2. Northeast Illinois Planning Commission (for local government guidebook/model assistance); and 3. Land Conservancy of West Michigan for technical input and review to build on their current Muskegon County project to identify potential landowners for conservation easements in conjunction with Michigan's Natural Features Inventory's "Element Occurrences" in Muskegon & Newaygo counties. Through the project manager's involvement/monthly meetings with the Muskegon County Environmental Coordinating Council, Muskegon County Land Use Task Force & the Muskegon and White Lake Public Advisory Councils, community based support will help generate: 1. resource information for the project's development 2. awareness of the BA/RG's value for use in the redevelopment of coastal brownfields and 3. political will/encouragement for local government officials to use the BA/RG as a resource in the identification, restoration & preservation of natural areas.

The project will serve as a model for replication in the Muskegon River watershed, Michigan AOC & Lake Michigan basin communities through the project manager's involvement in the Muskegon River Watershed Assembly, Statewide Public Advisory Council for Michigan's AOCs & Lake MI LaMP Forum.